# Geospatial Science Technician A.A.S.

Career Community: Computer Technology and Networking
Curriculum Code: 0224
Effective: Fall 2025 – Summer 2030

## Purpose of the Major

Geospatial Science combines computer technology, mapping technologies, aerial photography, and satellite imagery with the most current environmental resource management and environmental analysis software. Geographic Information Systems (GIS) technicians work with computer drafting, design, database management, graphic design, and computer analysis. Environmental technology requirements include a working knowledge of natural systems and related regulations and their assessment, planning, restoration, and management. GIS technicians are employed with engineering and design firms, state and federal agencies, environmental firms, parks and recreation departments, and with municipalities and local government units. Students completing this curriculum may also be eligible to apply for the Certificate of Achievement in Geospatial Science (0834). Not all courses in this program transfer to all colleges. Students planning to transfer should see an academic advisor before enrolling in any course.

## Milestone

In addition to the required General Education courses in Math and English, completion of GSCI 110 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

## Additional Information

Students beginning this pathway in Spring Semester may want to start with the Semester II courses as many Semester I courses are only offered in Fall Semester.

## Contact Information

For further information, including career options, course substitutions and waivers, etc., contact the Geospatial Science Program, West Campus Building, Room M103, telephone number 517-267-6406 or Student Services West Campus, West Campus Building, Room M106, telephone number 517-267-5452.

## Major Required Courses

| Course Code | Course Title | Credit / Billing Hours |
|---|---|---|
| ACAD 100 | First-Year Experience | 1 / 1 |
| CITP 110 | Intro to Programming-Python | 4 / 4 |
| CITS 110 or | Helpdesk Support Specialist | 3 / 3 |
| COMM 110 or | Communication in the Workplace | 3 / 3 |

| Course Code | Course Title | Credit / Billing Hours |
|---|---|---|
| COMM 120 or | Dynamics of Communication | 3 / 3 |
| COMM 130 or | Fundamentals Public Speaking | 3 / 3 |
| COMM 200 or | Small Group Communication | 3 / 3 |
| COMM 240 or | Interpersonal Communication | 3 / 3 |
| COMM 260 or | Nonverbal Communication | 3 / 3 |
| ENGL 122 or | Composition II | 4 / 4 |
| ENGL 132 | Honors Composition II | 4 / 4 |
| ENGL 121 or | Composition I | 4 / 4 |
| ENGL 124 or | Technical Writing | 3 / 3 |
| ENGL 127 or | Business Writing | 3 / 3 |
| ENGL 131 | Honors Composition I | 4 / 4 |
| GSCI 100 | Intro to Geospatial Tech | 3 / 3 |
| GSCI 110 | Beginning ArcGIS | 3 / 5 |
| GSCI 120 | Advanced ArcGIS | 3 / 5 |
| GSCI 210 | Global Positioning Systems | 3 / 4 |
| GSCI 240 | Cartography in GIS | 3 / 4 |
| GSCI 241 | Remote Sens/AirPhoto Interpret | 3 / 4 |
| GSCI 260 | Automating Workflows in GIS | 3 / 4 |
| GSCI 264 | Web GIS | 3 / 4 |
| GSCI 271 | Parcel Mapping | 3 / 5 |
| MATH 120 or | College Algebra | 4 / 4 |
| MATH 126 or | Precalculus | 5 / 5 |
| MATH 141 or | Calculus with Applications | 4 / 4 |
| STAT 170 or | Introduction to Statistics | 4 / 4 |
| STAT 215 | Intro to probability and Stats | 4 / 4 |

Notes:

ACAD 100 may be waived when students meet one of the following College-approved waiver criteria:
- Completion of 12 college-level credits with minimum grades of 2.0 shown on the LCC transcript (including transfer, if applicable), or
- Employment in the field of, or a field related to, the degree being sought, or
- For Health Careers students, successful completion of CHSE 100.

Students wishing to waive ACAD 100 should contact their advisor.

Students following specific articulation agreements with Eastern Michigan University in Cybersecurity choose STAT 170 or with Northwood University in Cybersecurity choose MATH 120. All other students considering future transfer should choose the highest MATH or STAT course into which they place to maximize options.

## Major Required Courses, Limited Choice – Humanities and Fine Arts or Social Science or Applied Social Science - *Select one as recommended or select one from [LCC General Education Applied Degrees:](#) Humanities and Fine Arts or Social Science or Applied Social Science. A minimum grade of 2.0 is required for each General Education course.*

| Course Code | Course Title | Credit / Billing Hours |
| --- | --- | --- |
| ANTH 270 | Cultural Anthropology | 3 / 3 |
| ARTS 102 | 2D Design | 3 / 4 |
| ECON 201 | Principles of Economics-Micro | 4 / 4 |
| ECON 202 | Principles of Economics-Macro | 4 / 4 |
| GEOG 200 | World Regional Geography | 4 / 4 |
| MGMT 234 | Diversity in the Workplace | 3 / 3 |
| POLS 201 | Intro to Political Science | 3 / 3 |
| SOCL 120 | Introduction to Sociology | 4 / 4 |

Notes:
- GEOG 200 is recommended for this major.
- Students considering future transfer, choose ANTH 270, GEOG 200, POLS 201, or SOCL 120.

## Major Required Courses, Limited Choice – Natural Science or Applied Science and Technology Lab - *Select one as recommended or select one from [LCC General Education Applied Degrees:](#) Natural Science or Applied Science and Technology Lab. A minimum grade of 2.0 is required for each General Education course.*

| Course Code | Course Title | Credit / Billing Hours |
| --- | --- | --- |
| BIOL 120 | Environmental Science | 4 / 6 |
| CHEM 135 | Chemistry in Society | 4 / 5 |
| GEOL 230 | Environmental Geology | 4 / 6 |
| ISCI 131 | Integrated Physical Science | 4 / 6 |
| PHYS 120 | The Art of Physics | 4 / 5 |

Notes:
- Students considering future transfer to Central Michigan University choose BIOL 120.
- GEOL 230 is recommended for this major.

## Major Required Courses, Limited Choice – *Select 7 credits*

| Course Code | Course Title | Credit / Billing Hours |
| --- | --- | --- |
| AVAU 100 | Drone Flight Orient.-FAA Exam | 2 / 2.5 |
| AVAU 150 | Drone Maintenance | 2 / 3 |
| AVAU 200 | Advanced Drone Flight-Capstone | 2 / 3 |
| CITA 126 | Microsoft Excel | 3 / 3 |
| CITA 133 | Microsoft Access Database | 3 / 3 |

| Course Code | Course Title | Credit / Billing Hours |
|---|---|---|
| CITD 120 | SQL Concepts | 3 / 3 |
| CITP 130 | Intro to Mobile App Devel | 3 / 3 |
| CITP 190 | Intro to Programming in JAVA | 4 / 4 |
| CITS 172 | Intro to Basic Electronics | 4 / 4.5 |
| CITW 160 | Web Development HTML & CSS | 3 / 3 |
| CITW 165 | Web Development JavaScript | 3 / 3 |
| GSCI 150 | Drone Flight for Industry | 3 / 4 |
| GSCI 250 | Drone Map Analysis | 3 / 4 |
| GSCI 275 | GIS Proj Mgmt & Implementation | 3 / 4 |

## General Education - Applied Degrees

- English Composition or Applied English
  Major Required Courses meets this requirement
- English Composition (second course)/Communication or Applied Communication
  Major Required Courses meets this requirement
- Humanities and Fine Arts or Social Sciences or Applied Social Sciences
  Major Required Limited Choice Courses meets this requirement
- Mathematics or Applied Mathematics
  Major Required Courses meets this requirement
- Natural Sciences Lab or Applied Science and Technology Lab
  Major Required Limited Choice Courses meets this requirement

## Additional Credits

After completing the course and credit requirements as noted on this pathway, students who fall short of the 60-credit minimum required for an Associate Degree may select any course(s) needed to reach 60 credits, except those courses noted in number 7 in the Institutional Requirements for Associate Degrees.  Students are encouraged to use Degree Works and meet with an Advisor to ensure all requirements are met and for course recommendations.

## Minimum Total Credit Hours

60 credits / 72 billing hours

## Recommended Course Sequence

| Semester I |
|---|
| ACAD 100 |
| ENGL 121 or ENGL 124 or ENGL 127 or ENGL 131 |
| GSCI 100 |
| GSCI 210 |
| MATH 120 or MATH 126 or MATH 141 or STAT 170 or STAT 215 |
| Limited Choice |

| Semester II |
| --- |
| CITS 110 or COMM 110 or COMM 120 or COMM 130 or COMM 200 or COMM 240 or COMM 260 or ENGL 122 or ENGL 132 |
| GSCI 110 – Milestone course |
| GSCI 240 |
| Limited Choice– Humanities and Fine Arts or Social Sciences or Applied Social Sciences |
| Limited Choice |

| Semester III |
| --- |
| CITP 110 |
| GSCI 120 |
| GSCI 260 |
| GSCI 271 |
| Limited Choice– Natural Sciences Lab or Applied Science and Technology Lab |

| Semester IV |
| --- |
| GSCI 241 |
| GSCI 264 |
| Limited Choice as needed for minimum credits |

*LCC makes every effort to limit revisions to the pathways during their effective timeframe. However, the College reserves the right to update certificate and degree titles, and make course changes as needed, without prior notice. The College also reserves the right to discontinue programs when warranted.*